UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,503	01/22/2002	Charles M. LaMotta	1735 SPRI	6482

32423 7590 11/04/2005

SPRINT COMMUNICATIONS COMPANY L.P.
6391 SPRINT PARKWAY
KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER	
STEELMAN, MARY J	

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,503	LAMOTTA ET AL.	
	Examiner	Art Unit	
	Mary J. Steelman	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☒ Other: *Copy of accepted drawings.*.

DETAILED ACTION

1. This Office Action is in response to Amendments and Remarks received 8 August 2005. Per Applicant's request the Specification has been amended. Per Applicant's request claims 7 and 10 have been amended. Claims 1-20 are pending. The prior Non Final Office Action is withdrawn. New art has been applied.

Claim Objections

2. In view of the amendment to claim 7, the prior objection is hereby withdrawn.

Drawings

3. Replacement sheet drawings for Fig. 1 and Fig. 3 have been entered. In view of Replacement sheet drawings, amendments to the Specification, and Applicant's comments, the prior objections to the drawings are hereby withdrawn.

Claim Rejections - 35 USC § 112

4. In view of the amendment to claim 10, the prior 35 USC 112 2nd paragraph rejection is hereby withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, 4, 5, 7-10, 12-15, 17, 18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2002/0165701 A1 to Lichtenberg et al.

Lichtenberg disclosed:

Per claims 1, 8, and 14:

A method / system / computer readable medium in a computing environment for determining compatibility of parts in a selected product configuration, the method comprising:

[0001] a method for configuring a product, where compatibility (interdependencies) of parts selected are considered when selecting parts for product configuration. A computer system capable of determining the compatibility of parts in a product configuration is disclosed in Figs. 3-9, which depict a computer exemplifying Lichtenberg's invention for configuring a product. Lichtenberg disclosed a computer readable medium version of a compatible configuration selection process at [0194-0195].

-determining whether a new part is compatible with one or more existing parts of the product configuration;

As an example, at [0029-0034], providing and defining rules relating to compatibilities is disclosed. A rules / constraints based reasoning technique is provided in the form a Directed Acyclic Graph (DAG) whereby choices made for a part selection are checked for compatibility (determining whether a new part is compatible) using the DAG.

-if said new part is not compatible with one or more existing parts, determining a replacement part for one of an existing incompatible part and said new part.

A new part that is not compatible may be selected ([0102], [0383], [0406]). "Even though this selection is not compatible with other selection, force this selection, sacrificing other selections..." [0407-0412], explains that the 'forced selection' will be added to the product configuration, requiring new selection (replacement part) of previously selected parts. [0383], The user is able to undo previous selections and re-select a replacement part to satisfy compatibility.

Per claims 2 and 15:

-replacing said existing incompatible part with a compatible alternative existing part.

[0383], After 'forcing' the selection of a part that causes the product configuration to be incompatible due to previously selected existing parts (earlier selections / existing incompatible part), a configuration assistant, using the DAG, provides for sacrificing earlier selections / de-selecting previously selected parts to achieve compatibility. [0407-0412] a selection list, S', is initialized to an empty list and new selections, s (compatible alternative existing part), are added if compatible.

Per claims 4 and 17:

-determining whether said new part is compatible with the product configuration.

Lichtenberg described a DAG used to verify compatibility of selections. Iteratively, as each new part is selected, it is checked for compatibility, using a DAG that represents the compatibility rules according to specified product configuration. See [0028-0034].

Per claims 5 and 18:

-consulting a product table to determine whether said new part is compatible with the product configuration.

As an example, product tables are disclosed at [0242] that define components and attributes. [0249], Tables are translated to rules. [0268], "A rule is a Boolean expression over the product variables that should be satisfied of the configuration to be consistent" (product table used to determined whether said new part is compatible with the product configuration).

Per claims 7 and 20:

-determining whether said new part is incompatible with one or more base parts of the product configuration, wherein if said new part is incompatible with one or more base parts, an alternative new part is provided.

Lichtenberg disclosed an iterative selection process that allows for a 'new part that is incompatible" with base parts (previously selected components) to provide an alternative new part at [0096]. As an example, [0107] & [0109] discloses a database of alternatives.

Per claim 9:

A computer system capable of determining the compatibility of parts in a product configuration, the computer system comprising:

A computer system capable of determining the compatibility of parts in a product configuration is disclosed in Figs. 3-9, which depicts a computer exemplifying Lichtenberg's invention for configuring a product.

-a compatibility component which determines whether a selected part is compatible with existing parts of the configuration;

A DAG (compatibility component) is disclosed [0275 - 0276] that represents all rules and every consistent (compatible) configuration. A Boolean Decision Diagram (BDD) [0282] is suggested as a preferred embodiment [0288] of encoding the product model, whereby a BDD represents each [0292] consistent configuration. [0385] A user can see already performed selections, alternatives available, which alternatives are compatible with earlier selections. User is able to de-select earlier made configurations. [0400-0412], the iterative process of creating a list, S, of compatible selections.[0414-0419], As an example ,disclose that algorithms for determining compatible selections are implemented using the DAG / BDD. A 'configuration assistant' ([0380] & [0422]) implements the consistency enforcement.

-a replacement component which determines replacement parts for one of existing parts and new parts if a determination of incompatibility is made.

A compatible replacement component selection is shown in Fig. 3 and related text at [0385].

Per claim 10:

-a part determination component which determines whether a selected part is compatible with the product configuration.

A configuration assistant [0377] & [0422] uses the DAG / BDD as a part determination component to determine whether a selected part is compatible with the production configuration.

Per claim 12:

-said part determination component includes a product table for determining whether said selected part is one that can be added to said existing parts.

As an example, at [0242], product tables are disclosed that define components and attributes. [0249], Tables are translated to rules. [0268], "A rule is a Boolean expression over the product variables that should be satisfied of the configuration to be consistent" (product table used to determined whether said new part is compatible with the product configuration). A product table encompasses the rules of compatibility and thus determines whether a selected part is one that can be added to existing parts.

Per claim 13:

A computer readable medium containing a data structure for storing part incompatibility information, wherein the data structure comprises:

Lichtenberg disclosed a computer readable medium version of a compatible configuration selection process at [0194-0195]. Lichtenberg disclosed determining incompatibility by using a DAG that is based on rules derived from a product table [0106-0110].

-a plurality of records in a table, each record including at least two product identification values

As an example, see [0242], combined product descriptions with a product table to obtain the complete product model. The product description is used to capture the structure of the product by defining the components and their attributes, and the product tables are used to capture the concrete alternatives for the components as well as the concrete values for the attributes at least two product identification values).

-said values representing that said products represented by said identification values are incompatible

A DAG is used to represent all the rules regarding valid solutions (compatibility / incompatibility). See [0274-0279]. The DAG [0277] represents a set of configurations, each of those configurations defining value for each of the product variables.

-an indication as to product identification values which are suitable replacements for at least one of said product identification values entered in said record.

As an example, see [0242], which discloses the product tables are used to capture the concrete alternatives (suitable replacements) for the components. Further examples of suitable replacements are disclosed at [0036-0039]. For each component, information relating to a group of alternatives is provided, rules relating to compatibilities are defined and represented in a DAG. The DAG (has encoded indications as to product identification values and suitable replacements) is checked during the selections process to determine compatibility [0028-0034].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 6, 11, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication 2002/0165701 A1 to Lichtenberg et al.

Per claims 6 and 19:

Regarding the limitation:

-consulting a part incompatibility table to determine whether said new part is incompatible with one or more existing parts.

Lichtenberg failed to explicitly disclose a 'part incompatibility table.'

However Lichtenberg disclosed determining incompatibility by using a DAG that is based on rules derived from a product table. It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Lichtenberg's invention, to include a 'part incompatibility table which indicates which parts are incompatible with one another' as the DAG

information does derive this information (compatibility or incompatibility) from the product tables inherently. This information is used when a forced decision by the user / product configurer, to select the incompatible part, thereby forcing the de-selection of a previously selected part, or to un-select the currently selected part which is determined to be incompatible.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Lichtenberg's invention, to explicitly recite that the product table also provides a 'part incompatibility table', because information found in the product table is used to determine incompatibility for the purposes of a product configuration.

Per claim 11:

Regarding the limitation:

-compatibility component includes a part incompatibility table which indicates which parts are incompatible with one another.

Lichtenberg failed to explicitly disclose a 'part incompatibility table.'

However Lichtenberg disclosed determining incompatibility by using a DAG that is based on rules derived from a product table. It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Lichtenberg's invention, to include a 'part incompatibility table which indicates which parts are incompatible with one another' as the DAG information does derive this information (compatibility or incompatibility) from the product

tables inherently. This information is used when a forced decision by the user / product configurer, to select the incompatible part, thereby forcing the de-selection of a previously selected part, or to un-select the currently selected part which is determined to be incompatible. A table is consulted (designating the part as incompatible) prior to a forced decision by the user / product configurer, to select the incompatible part, which in turn, forces the de-selection of a previously selected part, or requires a un-select decision regarding the currently selected part which is determined to be incompatible. See iterative process at [0404-0413] used to select all parts, producing a compatible configuration.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Lichtenberg's invention, to explicitly recite that the product table also provides a 'part incompatibility table', because information found in the product table is used to determine incompatibility for the purposes of a product configuration.

9. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication 2002/0165701 A1 to Lichtenberg et al., and further in view of US Patent 6,853,978 B2 to Forth et al.

Per claims 3 and 16:

Lichtenberg failed to explicitly disclose:

-providing an alternative new part if a replacement part to said existing incompatible part is not available.

However his invention did disclose that the selection process was iterative. Any incompatible part selected will cause previous selections to be re-considered until an entire product is configured with compatible parts. Inherently, for any part that is not available, a compatible alternative new part will be presented as a choice.

However, more explicitly, Forth disclosed a system and method of specifying built and configured to order intelligent electronic devices (IEDs) (Abstract). At col. 13, lines 40-47, Forth disclosed that in the case of a part being no longer available, a newer model (an alternative new part) may be provided.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Lichtenberg's invention, of configuring a product of compatible parts, to include the situation that should a part not be available, that an alternative new part may be provided, because Lichtenberg disclosed that the iterative configuration process would continue until all parts selected are compatible and parts are selected until all parts for the product are chosen. See [0403-0413] regarding the consistent and complete configuration of a list, S', of compatible parts. Lichtenberg recognized the need to simplify the (Lichtenberg: [0026]) "computational problems inherent in developing a program for computer assisted configuration", (Lichtenberg: [0049]) enabling "the user to quickly be able to progress in the configuring of the product." Likewise, Forth recognized the (Forth: col. 1, line 40) "increased demand" for

configured products, which can be (Forth: col. 2, lines 2-4) "tedious, time consuming and resource intensive, i.e. expensive, process requiring highly skilled personnel."

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached at (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned: 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman

10/25/2005

Accepted MS 10-25-05

OIPE
AUG 08 2006
PATENT & TRADEMARK OFFICE

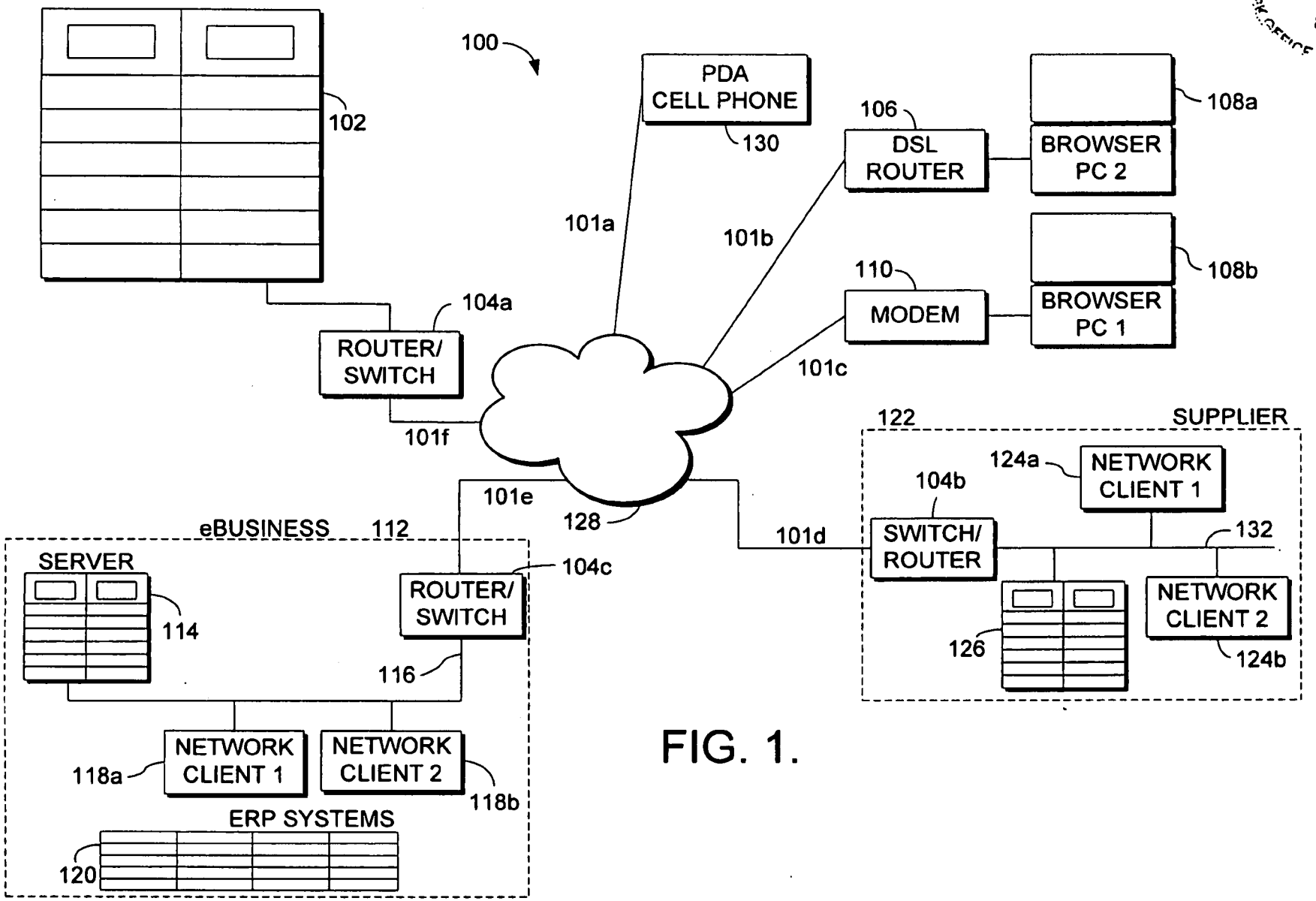

FIG. 1.

Accepted MH. 10.25.05

AUG 08 2005
PATENT & TRADEMARK OFFICE
USPTO
OIPE
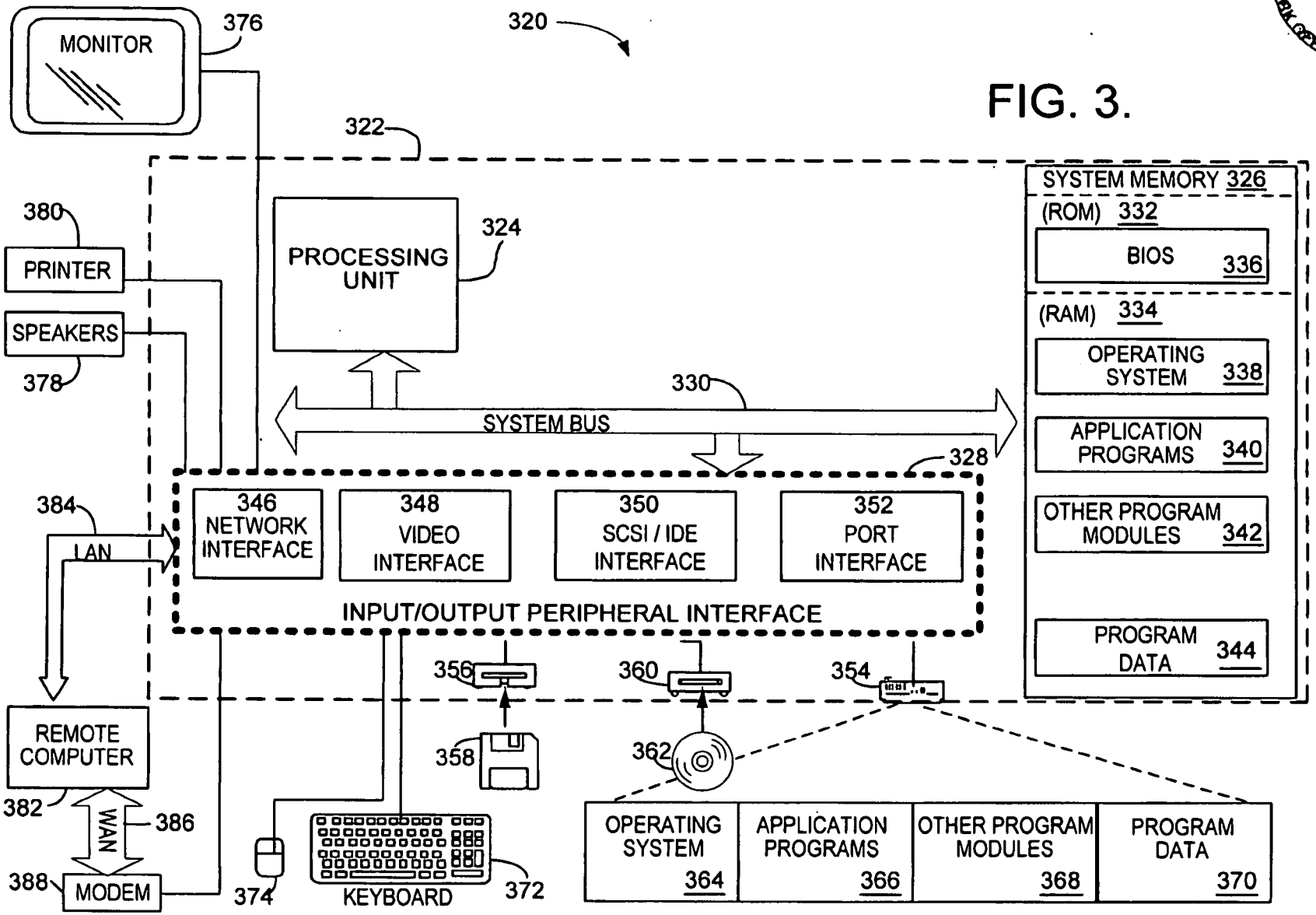
FIG. 3.